

REMARKS

In the Office Action dated September 15, 2005, claim 1 was rejected under 35 U.S.C. §112, second paragraph as being indefinite because the term “medical examination images” was not used consistently throughout the claim. Claim 1 has been editorially amended to consistently use this term, as have certain of the dependent claims wherein that term appears. All claims are therefore submitted to be in full compliance with all provisions of §112, second paragraph.

Claim 1-14 were rejected under 35 U.S.C. §102(e) as being anticipated by Parker et al. Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Parker et al. in view of Choi. Claims 16-19 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Parker et al. in view of “official notice” of the use of the different technologies respectively set forth in these dependent claims. Claim 20 was rejected under 35 U.S.C. §103(a) as being unpatentable over Parker et al. in view of Shiigi. Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over Parker et al. in view of Layton et al.

These rejections are respectfully traversed for the following reasons. As argued in Applicants’ previous response, wherein the Parker et al. reference was relied upon as the primary reference for rejecting the claims, there is no disclosure in the Parker et al. reference describing the generation or transmission of images. The Parker et al. reference is exclusively concerned with the generation and transmission of text data, possibly combined with a representation of an electrical signal, such as an ECG. Applicants argued that an ECG is simply a trace or a curve, representing a single electrical signal, and does not represent a medical examination image, as that term is commonly understood by those of ordinary skill in the field of medical

imaging. Applicants continue to believe this is a relevant basis for traversing the above rejections based on Parker et al.

In response to those previously-submitted arguments, at page 10 of the Office Action (paragraph 40) the Examiner provided citations to two patents that the Examiner considers as supporting a definition of “medical examination image” or “imaging modality” that encompasses the representation of an ECG. Applicants respectfully submit that the Examiner’s reliance on these citations is incorrect.

The Examiner cited the Manning et al. reference as defining “imaging modality” as “any imaging modality that acquires imaging data by a process that can be disturbed by body motions.” Applicants have no disagreement with this definition, however, it is merely a tautology, since it defines “imaging modality” in terms of the acquisition of “imaging data,” and Applicants do not agree that an ECG is considered by those of ordinary skill in the field of medical imaging as “imaging data.” As noted above, an ECG is simply a curve or a trace, and is not an image. This definition, therefore, merely shifts the question of what is an “imaging modality” to the question of what are “imaging data,” and therefore provides no support for the position that an ECG system is an “imaging modality” nor that “imaging data” encompass an ECG (by itself).

The Examiner also cited the Hutson reference as listing “multiple modalities of medical imaging,” among which electrocardiography (EKG) is listed. The Examiner, however, has only partially quoted the sentence in which that phrase occurs in the Hutson reference. The complete sentence begins “The system and method of the present invention correlate *data* from multiple modalities for medical imaging, including... .” This sentence, therefore, is describing data (without restriction) that

can be obtained from any number of imaging modalities, and the listing therefore not only includes the imaging modalities themselves, but also the data that can be acquired therefrom. Applicants acknowledge that an ECG can be *obtained from* an imaging modality, since ECG monitoring and ECG triggering are commonly used in the production of medical images. Simply because an ECG is available from an imaging modality, as being among the total available data from that imaging modality, does not mean that the ECG itself is considered by those of ordinary skill in the field of medical imaging as a “medical examination image,” as set forth in the claims of the present application. Moreover, it is clear from the drawings of the Hutson reference that the method and system described therein would have no, or extremely little, utility in processing an ECG signal. The drawings clearly indicate that true medical examination images are being processed in the Hutson reference. It is not seen how the techniques shown in Figures 6 through 13 of the Hutson reference, for example, could have any applicability whatsoever to processing an ECG signal. Therefore, it is clear that the complete statement in the Hutson reference, of which the Examiner cited only a portion, includes electrocardiography in the listing not as an example of a medical image, but as an example of data that can be acquired, *in addition to medical images*, from an imaging modality.

Numerous standard texts and dictionaries support the position of the Applicants that the term “medical examination image” is not considered by those of ordinary skill in the field of medical imaging to encompass an ECG.

Attached hereto as Attachment "A" is a printout from the online encyclopedia *Wikipedia*, describing medical imaging in general. As can be seen from that excerpt, a number of categories of medical imaging are listed, none of which mentions ECG, even as an augmentation. Moreover, the online article provides a number of links to other articles in the encyclopedia, and none of these links is to any other section of the online encyclopedia that is directed to electrocardiography. Therefore, not only is there no reference to electrocardiography, as an example of medical imaging, in the article itself, but the authors obviously did not even consider electrocardiography as being sufficiently related to medical imaging to include it in any of the links.

Attached hereto as Attachment "B" is an excerpt from the *McGraw-Hill Dictionary of Scientific and Technical Terms*, providing a definition of medical imaging as the production of visual representations of body parts, tissues or organs. This definition clearly does not encompass an ECG, and electrocardiography is not listed as being among the general categories of medical imaging provided in that definition.

Attachment "C" is an excerpt from a standard medical text (*Foundations of Medical Imaging*), and in the introduction, that provides an overview of all types of medical imaging that will be treated in the text, a definition is provided in the third full paragraph at page 4, stating that modern or contemporary medical imaging is a two-part process: (1) the collection of data concerning the interaction of some form of radiation with tissue, and (2) the transformation of these data into an image (or a set of images) using specific mathematical methods and computational tools. Clearly an ECG is simply a measurement of an electrical signal, and does not involve the

interaction of radiation with a subject. In this regard, it is no different than a curve representing a measurement of blood pressure, temperature, etc., and thus falls into the category of "sensing" rather than "imaging." An excerpt from another standard text (*Principles of Medical Imaging*) is attached hereto as "Attachment D". In the Preface to that textbook, the various categories of medical imaging (imaging modalities) are listed, and clearly ECG is not included.

Applicants respectfully submit that the attachments hereto are highly representative of the meaning that those of ordinary skill in the field of medical imaging ascribe to the term "medical examination images," and they clearly demonstrate that those of ordinary skill do not ordinarily consider an ECG to fall within that definition.

In the context of the patentability of the claims of the present application, this is not simply a trivial or semantic distinction. The fact that the Parker et al. reference does not provide any disclosure whatsoever with regard to acquiring or transmitting medical examination images, as that term is commonly understood by those of ordinary skill in the field of medical imaging, is sufficient to overcome the anticipation rejection of claims 1-14 based on the Parker et al. reference, since the Parker et al. reference does not disclose all of the elements of claim 1 as arranged and operating in that claim. Claims 2-14 add further structure to the novel combination of claim 1, and therefore are not anticipated by Parker et al. for the same reasons.

As to the rejections under 35 U.S.C. §103(a) wherein Parker et al. is relied upon as the primary reference, in combination with respective secondary references or "official notice," the distinction between a "medical examination image" and an ECG is relevant because, in order to substantiate a rejection under 35 U.S.C.

§103(a) based on a modification of the Parker et al. reference, the Examiner must provide evidentiary support for the position that it would have been obvious to a person of ordinary skill in the field of medical imaging to make use of the teachings of Parker et al., which are exclusively directed to the generation and transmission of an ECG, for the purpose of generating and transmitting true “medical examination images.” In view of the above evidence showing that those of ordinary skill in the field of medical imaging do not consider an ECG to fall into the category of a “medical examination image,” Applicant respectfully submits the Examiner cannot simply conclude, without proper evidentiary support, that there is no difference between the two. Applicants respectfully submit the Examiner has not provided the proper evidentiary support required by numerous decisions of the United States Court of Appeals for the Federal Circuit indicating a motivation, inducement or guidance in any of the references of record to apply the teachings of Parker et al., which are exclusively disclosed in that reference in the context of ECG generation and transmission, to the generation and transmission of “medical examination images.” In view of the significant differences between an ECG and a true “medical examination image,” Applicants respectfully submit that even if a person of ordinary skill in the field of medical imaging had the insight to apply the ECG-based teachings of Parker et al. to the field of medical imaging, this would be an insight supporting patentability, rather than a basis for negating patentability.

Applicants therefore respectfully submit that none of claims 16-22 would have been obvious to a person of ordinary skill in the field of medical imaging based on the teachings of Parker et al., modified by any of the secondary references or “official notice” cited by the Examiner.

The present Amendment makes only editorial changes, which were suggested by the Examiner, and therefore does not raise new issues requiring further searching or consideration. The attachments submitted herewith have been submitted because of the citation, for the first time, of the Manning and Hutson references by the examiner in the final rejection. Until the Examiner provided the (alleged) definitions in those references, Applicants had no reason to submit any type of evidence to refute those (erroneous) definitions. Moreover, all of the attachments hereto are submitted in the context of the issue that was raised by the Applicants in Applicants' initial response, and therefore this issue is not a new issue. Entry of the present Amendment is therefore respectfully requested.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application also is respectfully requested.

Submitted by,

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